

## A NEW SPECIES OF *MYERSLOPIA* FROM CHILE (HOMOPTERA: CICADELLIDAE)<sup>1</sup>

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ABSTRACT: A new species of leafhopper, *Myerslopiia chilensis*, from southern Chile is described and illustrated. The genus *Myerslopiia* is reviewed and notes are given on this first record of the genus in the New World.

Evans (1947) described *Myerslopiia* for two endemic species from New Zealand and created a new tribe Myerslopiini (Evans 1947) for this genus and a related genus, *Paulianiana* Evans, from Madagascar (Evans 1955). Later, Evans (1977) added the first new genus, *Myerslopiella*, from Australia to Myerslopiini. Three nymphs of the tribe were reported from Chile and were believed to represent a new, undescribed genus (Evans 1961 [1962]). Knight (1973) in his excellent review of the tribe, described 10 new species and four new subspecies from New Zealand. His work greatly enlarged our understanding of the diversity and peculiar distribution of the group.

Myerslopiini was regarded as a tribe of Ulopiinae by Evans (1947, 1955, 1966), Knight (1973) and Oman *et al* (1990). Linnavuori (1972) and Linnavuori & DeLong (1977) elevated the group to subfamily level (Myerslopiinae).

Known myerslopiine leafhoppers have fully developed forewings, lack flying wings and are considered primitive, relict insects derived from ulopine stock during the Mesozoic period (Evans 1966, Knight 1973, Linnavuori 1972). Nymphs of the tribe discovered on the Isla de Chiloe in southern Chile may represent a new genus as reported by Evans (1961 [1962]) or they possibly may be immature forms of the new species described below. Linnavuori & DeLong (1977) cited a letter received from Dr. Evans, who mentioned that a new myerslopiine genus (*Myerslopiella*) was found in Australia which for the first time gave a tribal connection between it and New Zealand.

The extended distribution of *Myerslopiia* into the New World, reported here for the first time, offers additional substantive evidence of faunal and geological connection of southern South America, Australia and New Zealand as part of the historical biogeography of Gondwanaland or "Antarctic" land mass prior to the breakup of Pangeae. The biogeography and proposed origin of the subfamily are given in detail in another paper (Nielson & Knight, in preparation).

In this paper, a new species of *Myerslopiia* is described from 1 male and 3 female adult specimens sent to me by Dr. Robert Brooks, Snow Entomological Museum, University of Kansas (UK), for identification.

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*Myerslophia* Evans

*Myerslophia* Evans 1947, Type-species, *Myerslophia magna* Evans, by original designation.

The genus was characterized by Knight (1973) in his detailed study of the New Zealand Ulopinae.

*Myerslophia chilensis* NEW SPECIES

Figs. 1-7

Length male, 5.2 mm., female 5.60-5.90 mm.

General color dark brown, with large ivory spots in basal half of costa, tannish ridge along fused claval suture; scutellum tannish; crown tannish in basolateral area in female.

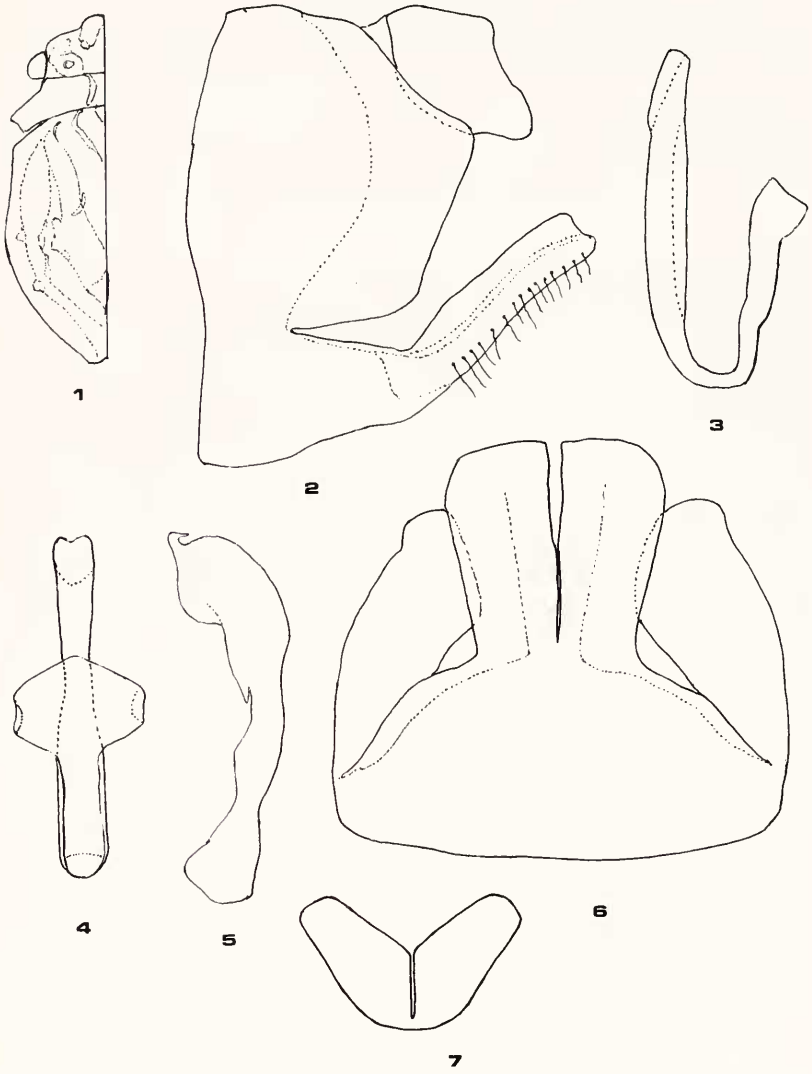
Head broad, narrower than pronotum; eyes small, protuberant laterally; ocelli absent; crown produced medially, anterior margin sinuate, foliaceous, disk with triradial depression, prominent rumulate tubercles basally, one on each side between midline and inner margin of eyes, numerous small bullae on discal surface; pronotum very short, with lateral, triangulate paranota, paired curved, highly elevated ridge medially; scutellum very small, inflated; forewing coriaceous, shielding abdominal pleural region, pitted, highly sculptured with several, irregular shaped protuberances on each side of commissural line, elevated ridge on first claval vein, claval suture fused by elevated curved ridge from base to near commissural line apically, elevated ridge transecting fused claval suture, five protuberances of various configurations in each discal area, large protuberance on joined commissure 1/3 distance from apex, venation obscure, appendix absent (Fig 1); hindwing absent; clypeus swollen distally, protuberant basally on each side of middle, numerous bullae on surface; clypellus swollen; lora distinct, gena large, antennal sockets deep, antennal ridge foliaceous, irregularly cupulate; labium robust, extending beyond posterior coxae.

Male. Pygofer short, without caudal processes, caudal margin produced to a medial lobe (Fig. 2); segment 10 sclerotized (Fig. 2); aedeagus long, tubular, curved dorsad of and fused basally to apex of connective, gonopore terminal on dorsal margin (Fig. 3, 4), configuration similar to *magna* Evans complex (Knight 1973, fig. 10E); connective subquadrate basally (Fig. 4); style nearly straight (not abruptly curved medially as in all New Zealand species), enlarged in distal third with small curved projection apically (Fig. 5); plate fused basally to broad triangulate valve, not fused along entire midline (Fig 6), truncate or nearly so in lateral and ventral views (Fig. 2, fig. 6), microsetae along outer lateral margin (Fig. 2), sclerotized curved ridge along base of plate and extending along caudal margin of valve (Fig. 6).

Female. Seventh sternum large, consisting of two elliptical plates fused narrowly at base on midline, with narrow separation on midline (Fig. 7).

Holotype (male). CHILE: Osorno, 19 km. E. Termas de Puyehue, 40 degrees 40'S., 71 degrees 14'W., 450 m., 30.XI.1994, A. Leschen & C. Carlton, #200, ex:sifting leaf litter (UK). Allotype female, Chiloe, 31.4 km. SW Chonchi, Lago Tepuhueco, 50 m., 42 degrees 51'S., 73 degrees 47'W., 26.XI.1994, R. Leschen & C. Carlton, #122, ex:sifting leaf litter (UK). Paratypes, 1 female, Osorno, 34.5 km. E. Osorno, 40 degrees 38'S., 71 degrees 42'W., 200 m., 1.XII.1994, R. Leschen & C. Carlton, #201, ex: leaf litter *Nothofagus* (UK); 1 female, Osorno, Lago Puyehue, 2 km. W. Termas de Puyehue, 40 degrees 42'S., 72 degrees 22' W., 300 m., 13.XI.1994, R. Leschen & C. Carlton, #172, ex:flight interception trap (UK).

**Remarks.** This species is related to the *magna* complex in general habitus and male genital characters. It keys to couplet 4 in Knight's key to the species



Figs. 1-7. *Myerstopia chilensis*, n. sp. 1. Dorsum, left dorsal view. 2. Male pygofer and 10th segment, lateral view. 3. Aedeagus and connective, lateral view. 4. Same, ventral view. 5. Style, lateral view. 6. Plate, valve and male pygofer, ventral view. 7. Female seventh sternum, ventral view.

of *Myerslopi*a of New Zealand. Distinguishing features of *chilensis* that separate it from *magna* include the following: smaller size, higher number of and different configurations of protuberances on forewings (a major character for species differentiation), different configuration of clypeal protuberances, plates completely separated and truncate distally, and style not curved abruptly at right angle medially with subapical third enlarged.

The hosts of *Myerslopi*a species in New Zealand are unknown, and all records point to their habitat in leaf litter and soil debris (Knight 1973). Similarly, the host of *M. chilensis* is unknown and all specimens except one (flight intercept trap) were collected in leaf litter, presumably on a forest floor. A specimen collected in leaf litter of *Nothofagus* is significant because this southern hemisphere beech genus is affiliated with the "Antarctic" flora of Mesozoic origin. It is also interesting to note that one specimen was collected in a flight intercept trap, probably carried by strong winds since the adults cannot fly.

The long, robust labium of *Myerslopi*a species which is atypical of leafhoppers and the leaf litter habitat of the group might imply that these species are predaceous. If so, they would be the first record of a nonphytophagous leafhopper. They are primitive insects presumably derived from the base of the ulopine stock. Phytophagy is considered a derived character state from predation in the heteropteran groups (Schuh 1979, Ward *et al.* 1993) and therefore the predaceous groups are now placed along the base of the phylogenetic tree. The correlation between "primitive" groups and predation is implied as far as leafhoppers are concerned. Research on the feeding habits of *Myerslopi*a or other primitive groups of leafhoppers in the subfamily Ulopinae is needed to resolve this question.

#### ACKNOWLEDGMENTS

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## BOOK REVIEW

(continued from page 321)

They are well done and are clearly reproduced. Although many are redrawn from originals, the advantage of having over 600 figures all drawn by the same hand is a plus for caddisfly workers. Many of the species present in the Interior Highlands are common throughout the east, so the figures and keys will be much utilized. Larvae of four species, *Helicopsyche limnella*, *H. piroa*, *I'olycentropus crassicornis*, and a species of *Marilia* are illustrated for the first time, as is the female of *Helicopsyche piroa*. Each of the 229 species occurring in the Interior Highlands is briefly discussed with notes on distribution in the region and North America, as well as notes on taxonomic and biology.

The book concludes with nearly 300 references as recent as 1994 and a taxonomic index. The book is highly recommended to those concerned with aquatic biology in the Interior Highlands region, as a companion volume to Poulton and Stewart's stoneflies of the Ozark and Ouachita Mountains, and as a general reference book for caddisfly workers throughout North America.

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